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ABSTRACT

Elementary students who have fallen behind their instructional group in reading can increase their rate of acquisition of reading skills through increased "time on task" (the time a learner actually spends attending to the learning task). In a six-month research project, subject students were pretested for reading ability, then grouped under three conditions: cross-age tutoring plus home-based reinforcement; cross-age tutoring, home-based reinforcement, and small group instruction during school hours; and cross-age tutoring, home-based reinforcement, small group instruction, and daily rehearsal of reading skills in their home classroom. Posttesting results indicated that although there was statistically significant improvement in the reading skills of all students over the six-month period, the groups that received additional help did not make any greater gains than the group that was only tutored. Two problem areas in providing additional time on task were uncovered during the project: the problem of implementing cross-age tutoring programs within the school system without the help of additional staff, and the problem of finding an acceptable method of providing additional time on task within normal instructional hours. (AEA)

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Research Report 79-11

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INCREASING *TIME ON TASK* THROUGH A MULTI-METHOD APPROACH TO READING INSTRUCTION

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John Carroll's (1963) model of school learning identified time as a central variable in learning and suggested that a student's aptitude for a task could be defined as the amount of time needed to reach a stated criterion level for the task. He further refined this notion to specify *time on task* i.e., the time a learner actually spends attending to the learning task, as the critical element in acquiring a skill. If this is accepted, children with less than average aptitude require more time on task than the average student to master the skills taught in school. This belief has prompted educators to create ways of increasing achievement by increasing *time on task*.

Benjamin Bloom, who developed a mastery learning approach which takes into account these differential time requirements, has identified one of the most significant problems with this strategy, viz., the inevitable pressure on a student to learn at the same rate as the group to which he belongs (Bloom, 1973). Since children do require varying amounts of time to learn, the challenge for educators is to provide the time necessary for each child in the group to master the material. This may require dramatic changes in strategies, procedures, classroom organization and allocation of resources.

This study represents an attempt to increase *time on task* for students who have fallen behind their instructional group in reading through the use of cross-age tutoring and other additional types of instruction.

During the 1977-78 school year Mr. J. Trovato, a graduate student in Psychology, implemented a cross-age tutoring program with a home-based reinforcement component[1] in co-operation with the Learning Resource System (LRS).

This program was quite successful in increasing the rate of acquisition of reading skills for the students involved. Over a 5-month period, the control group gained approximately 2 months, the group which was tutored without reinforcement gained approimately 8 months and the group which was tutored and received home-based reinforcement gained 13 months. Since this program produced learning at an accelerated rate, it was hypothesized that, if the amount of *time on task* could be increased even more by providing additional reading instruction for these children, they should progress even

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[1] This program involved Grade 8 students serving daily as tutors for students in Grades 3 and 4. It is a highly structured procedure with the tutee reading orally to the tutor. The home-based reinforcement requires the parents to contract to provide reinforcement for points earned during the tutoring.

more quickly. In the present study an attempt was made: (1) to replicate Mr. Trovato's study and (2) to assess the effectiveness of further increasing the *time on task* by augmenting the tutoring program with additional instructional time in reading and an extra opportunity to rehearse some of the reading skills being taught.

METHOD

The design of this experiment includes three conditions. The children in Condition 1 received tutoring plus home-based reinforcement. Condition 2 included tutoring with home-based reinforcement plus instruction by the Learning Resource Teacher (LRT) in a small group withdrawal program. In Condition 3 the children received tutoring with home-based reinforcement plus small group withdrawal instruction and daily rehearsal of reading skills in their home classroom under the supervision of their classroom teacher. It was hoped that Condition 1 would provide the students with 20 additional minutes a day, Condition 2 would increase their time by approximately 40 minutes a day and students in Condition 3 would receive an extra 55 minutes a day of attention to reading skills.

This research project was undertaken by the LRTs in one administrative area of the city. Each of the LRTs agreed to run a tutoring program in one of their schools and to provide the leadership and resources to implement Conditions 2 and 3 with some of the children.

Children were initially selected for the program on the basis of teacher nomination. All of the students nominated were then tested with the Woodcock Reading Mastery Test - Word Identification Sub-Test, and the placement stories from the SRA Reading Lab. Students with similar scores were grouped into triads and the members of each triad were randomly assigned to the three conditions. The various instructional programs began during November and December and Educational Research Services (ERS), with the help of Mrs. June Pinkney, monitored their implementation. Mrs. Pinkney visited each site on a weekly basis and met with the group of LRTs periodically to discuss common problems.

RESULTS

Because of problems of implementation, the students did not always receive all of the program components of the condition to which they had been assigned. Consequently, the instruction which each student actually received was recorded and the data were analyzed in terms of the condition they actually belonged to rather than the one to which they were originally assigned. Because only 2 students really qualified for condition 3, the students in conditions 2 and 3 were grouped together for purposes of data analysis. It is interesting to note that, in all three conditions, the amount of additional time was less than had been anticipated. Students in condition 1 received approximately 15 extra minutes a day, students in condition 2 received approximately 30 minutes a day and in condition 3 the addition was about 45 minutes a day.

The mean pre- and post-test scores and ANOVA test results for children who were tutored and for those who received tutoring plus additional help are displayed in Table 1.

Table 1 Mean pre- and post-test scores and ANOVA results for children who were tutored and those who received tutoring plus additional help.

Performance Measure	Group	Time of Testing		ANOVA Test Results	
		Pre	Post	Pre Vs. Post	T Vs. T+
Woodcock Word Identification Subtest	Tutored (T)	2.5	3.1	VS (.01)	NS
	Tutored + Additional Help (T+)	2.4	3.1		
	All Together	2.5	3.1		
SRA Starter Stories	Tutored	1.7	2.2	VS (.01)	NS
	Tutored + Additional Help	1.6	2.3		
	All Together	1.7	2.3		

VS = very significant
NS = not significant

Table 1 indicates that the students in the tutored group and in the group who received tutoring plus additional help had similar pre-test scores on both the Woodcock and the SRA stories. Both groups made statistically significant gains on both of the tests during the time between pre- and post-testing but the group with additional help did not make any greater gains than the group which was only tutored. The average growth for both groups was approximately 6 months over the 6 months during which the program was operating.

DISCUSSION

Children were selected for these special instruction programs only if they had difficulty in reading. Those included have historically made approximately 7 months growth in a 10-month school year. This means that their rate of growth during this study seems to represent some improvement over the what they have tended to achieve in the past. In spite of this improvement, the children did not progress at the accelerated rate observed in Mr. Trovato's study. In addition, there is no evidence of a faster rate of growth in children who received additional time in small group withdrawal and additional rehearsal in the classroom.

These results and the notes kept by Mrs. Pinkney during implementation of these programs indicate two significant problem areas in providing additional *time on task* through this particular strategy. The first problem is one of implementing tutoring programs within the school system without the help of additional staff - especially someone who can constantly monitor the implementation of the program. The second problem consists of finding an acceptable method of providing additional *time on task* within normal instructional hours.

Implementation of Tutoring Programs

Implementing tutoring programs without the assistance of additional personnel who constantly monitor the program has been a serious problem in several previous studies. (Stennett and Isaacs, 1976 and 1977). In fact, this issue was the major focus of another study which sought to create the mechanisms necessary to ensure that the programs proceed as they should without additional personnel (Isaacs and Stennett, 1979). Evidence from all of these studies indicates that, in order to increase the rate of acquisition of reading skills via cross-age tutoring, the program needs to be clearly understood by the LRTs and implemented very carefully. This requires constant, detailed monitoring of the instructional activities and immediate correction of any errors. This kind of monitoring requires that the LRT be intimately involved with the progress of the tutoring. Tutoring should not be regarded as a time-saving program for LRTs. It is rather a mechanism for providing consistent one-to-one instruction to a number of students, structured so that each student is placed at his own level and moves according to his success. If an LRT wants to begin a tutoring program, she must accept the significant commitment of time that is required to make it a success. This process should be facilitated by the internal reporting scheme described by Isaacs and Stennett (1979).

Increasing Time on Task

If the implementation problems associated with tutoring can be overcome, it could represent a significant vehicle for increasing *time on task*. The second component of this study was to increase *time on task* further by: (1) focusing student attention during participation with the LRT in a small group setting and (2) providing additional practice of reading skills within the student's classroom. Implementing these procedures proved to be a formidable task. Although the LRTs were able to withdraw students for additional instruction once or twice a week, they met with a good deal of opposition from classroom teachers because of the amount of time that the students were spending out of the classroom. Consequently, very little additional time was created through this technique. Instead of an additional 20 minutes a day of instruction these children actually received approximately 15 minutes a day in the withdrawal group. In the cases where this intervention was successfully implemented, there was concern that the variability of the children's level of skill development sometimes made this instruction inappropriate.

The in-class rehearsal of reading skills was almost impossible to implement. In order to arrange this part of the program, the LRT had to negotiate some strategy with the classroom teacher to ensure that the student spent fifteen minutes a day in class doing additional reading tasks (e.g. flash cards, reading to a classmate, silent reading). The LRTs found it very difficult to arrange for these activities and, even if begun, they were almost never continued. The reasons for this were many: the tasks were rarely clearly defined; the organizational requirements were not provided; the classroom teacher had little interest or time for monitoring the activities, and the LRTs felt uncomfortable asking for even more attention to these students. All of these problems suggest that, given current school organization and instructional practices, it is a difficult challenge to provide consistent regular additional *time on task* within the classroom for selected children. If it is accepted that an essential element in teaching skills to these children is *time on task*, the problems that have been encountered in this study need to be solved. This suggests the need for discussion and planning within the LRS to develop strategies for providing a sufficient amount of additional *time on task* for children who require it.

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